A CLEANTECH COMPANY

ENERGY SAVINGS WITH SMART WINDOW TECHNOLOGY

CEO Bengt Åkerström
SMART WINDOW
SOLAR HEAT GAIN CONTROL

VISIBLE AND IR
SOLAR ENERGY

ABSORBED BY
ELECTROCHROMIC TECHNOLOGY
Intelligent electrochromic system

Polyester  Transparent Conductor, ITO  Electrochromic layer, NiO  Ion-conducting Electrolyte  Electrochromic layer, WO  Transparent Conductor, ITO  Polyester

0.4 mm

Cross-section of device

Control unit
Architectural market

Building envelopes goes “glazed”!

Commercial

Residential

Confidential
Building and transport are large energy consumers

- Buildings - 40% of total energy consumption in EU
- 1995-2003 energy consumption in EU related to AC increased with an average of 17% per year

Smart window technology - a solution which may reduce energy consumption in buildings by as much as 50%
VALUE CHAIN

- **Window / façade manufacturer**
  - Added value / higher margin

- **Construction company**
  - Smart Window investment balanced by reduced investment in AC and static solar screens

- **Property owner**
  - Reduced operational costs
  - Increased property value / rental margins

- **Tenant**
  - Comfort
The autoindustry goes “glazed”!
Smart window technology

- reduced energy consumption for AC
- increased passenger comfort
Electrochromic Devices (ECD)
- gradual transparency
- low voltage DC
- memory effect (low energy consumption)
- failure mode bright

COMPETING TECHNOLOGIES

Suspended Particle Devices (SPD)
- high voltage AC
- requires continuous power supply to operate
- failure mode dark

Liquid Crystal Display (LCD)
- bi-stable (dark/clear)
- low maximum transparency
- poor optical quality (hazy) in blocking mode
Our Competitive Strength

• Unique knowledge in production of electrochromic **thin flexible foils**

• Generic technology with high optical quality and **low production costs**

• **Patent protection** of strategic materials, control strategies and processes for volume production
The Company

Spin-Out from Uppsala University

2005
Operations begun
1st Customer agreement signed
Financing Round A (new investors Volvo & DuPont)

2006
Cleanroom production facilities & Pilot plant installed
Customer agreements

2007
Production process development

Patents: 5 granted + 3 filed + 2 pipe-line
Board: Founders, VC, Volvo, DuPont
Advisors: Technology & Production (US & SE), Production equipm (JP & US), Chemistry (SE)
Staff: 14
University: Research team co-operation
1. Application engineering, customer adaptation and product integration

2. In-house production - ramp-up

3. Production license agreement
   - Patent rights
   - Know-how
   - Application rights
   - Build and cut-over of plant (certified equipment and material suppliers)
   - On-going support
   - **Electrolyte produced and delivered by ChromoGenics**
Financing Round B

- **Capital need** $15M US
- **Purpose**
  - Migration to high volume roll-coating production process
  - Establish international presence & partnerships
  - Build Trademark
- **Time frame** 2nd half 2008
- **Investor profile**
  - Experience and networks for international expansion and production scale-up
  - License business competence
MARKET POTENTIAL
$20,000,000,000 US/year

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